



## Basic Electrical Engineering

Assignment # 3

Due date: March 21

**Question 1:** Find the voltage across 5-ohm resistance in Fig. 1, using KCL/KVL.

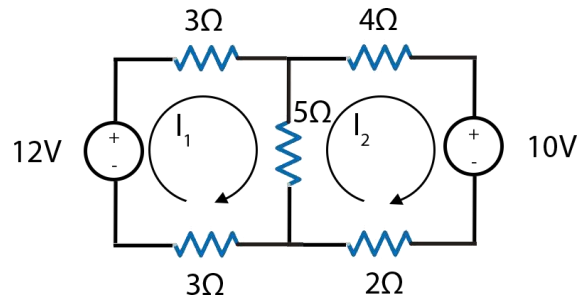


Fig. 1

**Question 2:** Find the total power dissipated by the combination of resistances in Fig. 1.

**Question 3:** What happens to the capacitive effect when we connect another capacitor in series to the current configuration of the capacitors?

**Question 4:** A plate is constantly supplied 24V till it saturates and no further increase in voltage, across its plates, is experienced. If the same capacitor is then discharged across a resistor of 100kΩ and its voltage goes back to 6V in 3sec;

- What is the capacitance of the capacitor?
- What was the value of maximum charge (in Coulombs) stored on the capacitor?

Hint: use exponential decay equation for solving the case to find C, at t=3sec.